

March 1946

SELECTED LIST OF PUBLICATIONS

WESTERN REGIONAL RESEARCH LABORATORY, ALBANY 6, CALIFORNIA
Bureau of Agricultural and Industrial Chemistry
Agricultural Research Administration
U. S. Department of Agriculture

The mimeographed materials are available on request. A limited number of bulletins and reprints of some of the journal articles are also available. Those not available are marked with an asterisk (*). Those listed for the first time are preceded by a plus (+).

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FREEZING PRESERVATION OF FOODS

Mimeographed information on frozen foods:

- 10 Frozen pork and beans of the tomato sauce type. June, 1943.
- 34 A test for adequacy of blanching in frozen vegetables. Nov., 1943.
- 35 Determination of ascorbic acid in fresh, frozen, and dehydrated foods.
Dec., 1943.
- 36 Freezing preservation of pumpkin pie stock. Dec., 1943.
- +40 Velva Fruit--A new frozen fruit dessert. Rev. No. 1. March, 1946.
- +46 Selected bibliography on freezing preservation of fruits and vegetables,
1920-45. Rev. No. 2. February, 1946.
- 57 Commercial preparation and freezing preservation of sliced apples. Aug., 1945.
- 66 Factors that affect quality in the freezing preservation of peas. June, 1944.

Bulletins on frozen foods:

Bedford, Berry, Boggs, Campbell, Cunha, McGregor, Overholser, Pool, Sorber,
Straka, and Watts. Locker and home freezing of farm products. Wash. Agr.
Expt. Sta. Pop. Bul. 180. June, 1945.

+Diehl and Warner. Freezing to preserve home-grown foods. U. S. Dept. Agr.
Circ. No. 709. Aug., 1945.

How to prepare vegetables and fruits for freezing. U. S. Dept. Agr. AWI-100.
May, 1944.

Making Velva Fruit at Home. U. S. Dept. Agr. AIS-22. May, 1945.

Journal articles on frozen foods:

- Frozen tomatoes not too good, juice has possibilities. Food Indus. 16(8): 632-633. Aug., 1944.
- *J. A. Berry. Preserving fruits and vegetables in frozen food lockers. West. Canner and Packer 34(4):50-52. 1942.
- *J. A. Berry. The fewer the bacteria, the better the frozen pack. Canner 94(4):13-14. 1941.
- *J. A. Berry. Frozen foods have good health record. Quick Frozen Foods 6(3):46. 1943.
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II. 8(6):502-515. 1943. (With Wash. Agr. Expt. Sta.)
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- *H. Campbell. Temperature and tenderometer. How temperature may affect tenderometer value for peas. West. Canner and Packer 34(2):39-40. Feb., 1942.
- *H. Campbell. Scalding of cut corn for freezing. West. Canner and Packer 32(9):51-53. Aug., 1940.
- H. Campbell. The splitting of shelled peas intended for freezing. West. Canner and Packer 32(8):49-50. July, 1940.
- *H. Campbell. Some fundamentals of vegetable preservation by freezing. West. Frozen Foods 6(3):3-5. June, 1945.
- *H. Campbell and H. C. Diehl. Quality in frozen pack peas. West. Canner and Packer: 32(10):48-50. Sept., 1940; 32(11):51-53. Oct., 1940.
- *H. C. Diehl. Can frozen foods help win the war and write the peace? West. Frozen Foods 3(4):5-6, 8, 10. 1942.
- *H. C. Diehl. Technological aspects of locker:plant industries. Quick Frozen Foods: I. 3(7):16-17, 42. 1941; II. 3(8):24, 37-38. 1941.
- *H. C. Diehl and J. A. Berry. Freezing and storage of frozen-pack fruits and vegetables. Spec. Bul. of Assoc. Refrig. Warehouses, No. 2. 1941.
- *H. C. Diehl and W. Rabak. Packaging of frozen foods under war conditions. Proc. Inst. Food Technol., pp. 117-120. 1942.
- V. D. Greaves and M. Boggs. Trends in freezing preservation of foods. Jour. Home Econ. 37(1):23-26. Jan., 1945 (With Univ. Calif.)

- *H. J. Loeffler and J. D. Ponting. Ascorbic acid. Rapid determination in fresh, frozen, or dehydrated fruits and vegetables. Indus. and Engin. Chem., Analyt. Ed. 14(11):846-849. Nov., 1942.
- *M. P. Masure and H. Campbell. Rapid estimation of peroxidase in vegetable extracts--an index of blanching adequacy for frozen vegetables. Fruit Prod. Jour. and Amer. Food Mfr. 23(12):369-374. Aug., 1944.
- J. P. Nielsen. Rapid determination of starch in vegetables. Indus. and Engin. Chem., Analyt. Ed. 15(3):176-179. March, 1943.
- J. P. Nielsen and P. C. Gleason. Rapid determination of starch. Factors for starches and comparison with acid and enzymic hydrolysis methods. Indus. and Engin. Chem., Analyt. Ed., 17(3):131-134. March, 1945.
- *J. P. Nielsen, E. R. Wolford, and H. Campbell. Delay affects frozen pea quality. West. Canner and Packer 35(6):47-48. June, 1943.
- *J. P. Nielsen, H. Campbell, and M. Boggs. Tenderizing vegetables for freezing by blanching in sodium hexametaphosphate solution. West. Canner and Packer 35(6):49. June, 1943.
- J. P. Nielsen and G. S. Bohart. Determination of crude lipid in vegetable matter. Indus. and Engin. Chem. 16(11):701-703. Nov., 1944.
- J. D. Ponting. Extraction of ascorbic acid from plant materials. Relative suitability of various acids. Indus. and Engin. Chem., Analyt. Ed. 15(6):389-391. June, 1943.
- J. D. Ponting. Catechol test for frozen fruits. Quick Frozen Foods 7(5):31, 46. Dec., 1944.
- +J. D. Ponting and G. Johnson. Determination of sulfur dioxide in fruits. Indus. and Engin. Chem., Analyt. Ed. 17(11):682-686. Nov., 1945.
- *W. Rabak. Are your cartons moisture-proof? West. Canner and Packer 33(11):52-55. Oct., 1941.
- *W. Rabak. The protective packaging of frozen foods. Refrig. Engin. 48(5): Nov., 1944; Good Packaging 6(2):21. Feb., 1945.
- W. Rabak and G. L. Dehority. Effects of heat sealing on water-vapor permeabilities of coated cellophanes. Modern Packaging 17(7):161-163, 220. Mar., 1944.
- *W. Rabak and H. C. Diehl. "Fondant-like" formation on fruits caused by crystallization of sucrose. West. Canner and Packer 36(4):55. April, 1944.
- W. Rabak and J. B. Stark. Impact--effect on moisture barriers at low temperature. Modern Packaging 18(18):137-139, 166. April, 1945.

- *D. G. Sorber. Frozen fruits provide a variety of flavors and added food value for ice cream. Ice Cream Field Year Book. 1942.
- *D. G. Sorber. Frozen sliced, crushed, and pureed fruits. Canner: I. 94(7): 16-17, 36. 1942; II. 94(8):18, 20, 22, 32. 1942.
- *D. G. Sorber. Freezing baked beans and other prepared foods. Quick Frozen Foods 5(8):18-19, 24. 1943.
- *D. G. Sorber. Freezing storage prolongs packing season. Quick Frozen Foods 5(9):16, 26. 1943.
- *D. G. Sorber. An analysis of the frozen fruit industry in Utah. Farm and Home Science 5(2):1, 8-10. June, 1944.
- E. R. Wolford. Direct microscopic method to estimate sanitary history of frozen pack peas. West. Canner and Packer 35(13):58. Dec., 1943.
- E. R. Wolford and A. A. Andersen. Propionates control microbial growth in fruits, vegetables. Food Indus. 17(6):622-624, 726, 728, 730, 732, 734, June, 1945.

DEHYDRATION OF FOODS

Information on dehydration (mimeographed):

- 1 Brine peeling of various root vegetables. 1943. Revised Feb., 1944.
- 15 Bin-type finishing driers in vegetable dehydration. 1943. Revised July, 1944.
- 16 Production of major fruits in the United States. Sept., 1943.
- 31 Application of drying rate nomographs to the estimation of tunnel-dehydrator drying capacity.
 - I Riced white potatoes. Nov., 1943.
 - II Blanched sweet corn. Nov., 1943.
 - III White potato strips--vertical air flow. Jan., 1944.
 - IV Shredded cabbage. Feb., 1944.
 - V Onion slices. April, 1944.
 - VI Sweetpotato strips. Sept., 1944.
 - VII White potato half cubes. March, 1945.
- 35 Determination of ascorbic acid in fresh, frozen, and dehydrated foods. Dec., 1943.
- 39 Cost accounting for vegetable dehydration plants. Jan., 1944.
- 47. The sampling and analysis of gases in cans of dehydrated vegetables. June, 1944.
- 58 New peroxidase test procedure for dehydrated potatoes to indicate adequacy ..of blanching. Aug., 1944.
- 75 Tray materials in relation to sulfited, dehydrated vegetables. March, 1945.

Information on dehydration (unnumbered, mimeographed):

- Sources of preparation equipment for vegetables for dehydration..
- Manufacturers of drying equipment for food and allied products.

Dehydrator designs:

- Type A - Transverse-flow cabinet dehydrator.
- Type G - 35-ton center-exhaust tunnel dehydrator With recirculation.
- Type I - Steam-heated cabinet dehydrator (single-truck unit).

Type J - Steam-heated cabinet dehydrator (double-truck unit).
Type K - Coal-burning cabinet dehydrator (single-truck unit).
Type L - Coal-burning cabinet dehydrator (double-truck unit).
Type N - Vegetable dehydrator, tunnel type, two-stage.
Type O - Cabinet dehydrator with cabinet blancher and bin finisher.
Types P, Q - Counterflow tunnel dehydrators.
Dwg. C-76 - Onion bin drier.
Dwg. D-96 - Multibin finisher.
Dwgs. C-112, 113 - Laboratory experimental cabinet drier.
Dwg. C-115 - Steam heating arrangements for tunnel dehydrators.
Dwg. A-118 - Friction stop for trucks.

Preparation-equipment designs:

Dwg. C-79A - Radiant-heat oil-fired root peeler.
Dwg. C-80A - Appurtenances for radiant-heat root peeler.
Dwg. D-108 - Tray-loading and de-traying table.
Dwg. D-109 - Brine peeler, No. 1.
Dwg. D-111 - Brine peeler, No. 2.
Dwg. D-116 - Picking and trimming table.

Bulletins on dehydration:

+Preservation of fruits and vegetables by commercial dehydration. U. S. Dept. Agr. Circ. 619. 46 pages. Feb., 1942.

Commercial dehydration of vegetables and fruits in wartime. U. S. Dept. Agr. Misc. Pub. 524. 29 pages. Sept. 1943.

Vegetable and fruit dehydration. A manual for plant operators. U. S. Dept. Agr. Misc. Pub. 540. 218 pages. June, 1944.

Journal articles on dehydration:

E. A. Beavens. Cabinet dehydrators suited to small-scale operations. Food Indus.: I. 16(1):70-72, 116. Jan., 1944; II. 16(2):90-92, 134. Feb., 1944; III. 16(3):75, 135-136. Mar., 1944.

+E. A. Beavens and J. A. Bourne. Commercial sulfiting practices. Food Indus. 17(9):100-101. Sept., 1945.

A. H. Brown and P. W. Kilpatrick. Drying characteristics of vegetables--riced potatoes. Trans. Amer. Soc. Mech. Engin. 65(11):837-842. Nov., 1943.

H. Campbell, H. Lineweaver, and H. J. Morris. Severe blanch doesn't improve dehydrated potato quality. Food Indus. 17(4):384-386, 478, 480, 482, 484, 486. April, 1945.

+H. Campbell and P. W. Kilpatrick. Effect of storage temperatures on sensitivity of White Rose potatoes to processing heat. Fruit Prod. Jour. and Amer. Food Mfr. 25(4):106-108, 120-121. Dec., 1945.

+E. M. Chace. Present status of dehydration in the United States. Proc. Inst. Food Technol. pp. 70-89. 1942.

- M. E. Davis and L. B. Howard. Effects of varying conditions on the reconstitution of dehydrated vegetables. Proc. Inst. Food Technol., pp. 143-155. 1943.
- F. DeEds. Dehydrated food in war and peace. Calif. and Western Med. 60(5):1-12. May, 1944.
- +W. C. Dunlap, Jr. and B. Makower. Radio-frequency dielectric properties of dehydrated carrots. Application to moisture determination by electrical methods, Jour. Phys. Chem. 49(6):601-622. Nov., 1945.
- *H. J. Dutton, G. F. Bailey, and E. Kohake. Dehydrated spinach. Changes in color and pigments during processing and storage. Indus. and Engin. Chem. 35(11):1173-1177. Nov., 1943.
- *+L. B. Howard. Significance of moisture content of dehydrated vegetables. Canner 100(13):46, 48, 50. Feb., 1945.
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- G. Mackinney and L. B. Howard. Sulphite retards deterioration of dehydrated cabbage shreds. Food Indus. 16(5):355-356, 406-409. May, 1944. (With Univ. Calif.)
- *B. Makower and S. Myers. A new method for the determination of moisture in dehydrated vegetables. Proc. Inst. Food Technol., pp. 156-164. 1943.
- *B. Makower and G. L. Dehority. Equilibrium moisture content of dehydrated vegetables. Indus. and Engin. Chem. 35(2):193-197. Feb., 1943.
- *+J. R. Matchett. Progress in spray drying of fruits and vegetables. West Canner and Packer 38(1):71-72. Jan., 1946.
- J. P. Nielsen. Rapid determination of starch in vegetables. Indus. and Engin. Chem., Analyt. Ed. 15(3):176-179. March, 1943.
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- *A. L. Pitman, W. Rabak, and H. Yee. Packaging requirements for dehydrated vegetables. Food Indus. 15(1):49-52, 104. Jan., 1943.
- J. D. Ponting. Extraction of ascorbic acid from plant materials. Relative suitability of various acids. Indus. and Engin. Chem., Analyt. Ed. 15(6):389-391. June, 1943.
- A. N. Prater, C. M. Johnson, M. F. Pool, and G. Mackinney. Determination of sulfur dioxide in dehydrated foods. Indus. and Engin. Chem., Analyt. Ed. 16(3):153-157. March, 1944. (With Univ. Calif.)

- W. D. Ramage and C. L. Rasmussen. This is what it costs to dehydrate vegetables. Food Indus.: I. Buildings, plant layout, capital investment 15(7):64-71, 137, 138. July, 1943; IIA. Processing costs--labor, raw material. 15(8):66-67, 118, 119. Aug., 1943; IIB. Processing costs--summarized. 15(9):75-77, 126. Sept., 1943.
- R.M. Reeve. Facts of vegetable dehydration revealed by microscope. Food Indus. 14(12):51-54, 107-108. Dec., 1942.
- *R. M. Reeve. A microscopic study of physical changes in carrots and potatoes during dehydration. Food Res. 8(2):128-136. 1943.
- R. M. Reeve. Microscopy of oils and carotene bodies in dehydrated carrots. Food Res. 8(2):137-145. 1943.
- *R. M. Reeve. Changes in tissue composition in dehydration of certain fleshy root vegetables. Food Res. 8(2):146-155. 1943.
- D. G. Sorber. The relation of the sulfur dioxide and total sulfur contents of dried apricots to color change during storage. Fruit Prod. Jour. and Amer. Food Mfr. 23(8):234-237, 251. Apr., 1944.
- +F. Stitt and E. K. Kennedy. Specific heats of dehydrated vegetables and egg powder. Food Res. 10(5):426-436. Sept., 1945.
- *W. B. Van Arsdel. Tunnel dehydrators and their use in vegetable dehydration. Food Indus.: I. 14(10):43-46, 106. 1942; II. 14(11):47-50, 103. 1942; III. 14(12):47-50, 108-109. 1942.
- *W. B. Van Arsdel. Some engineering problems of the new vegetable dehydration industry. Heating, Piping and Air Conditioning 15(3):157-160. 1943.
- *W. B. Van Arsdel. Tray and tunnel drying methods and equipment. Proc. Inst. Food Technol., pp. 45-51. 1943.
- *R. H. Wilson, J. O. Thomas, and F. DeEds. Vitamin A value of fresh and dehydrated carrots. Fruit Prod. Jour. and Amer. Food Mfr. 22(1):15-17. Sept., 1942.

STUDIES ON EGGS

- +G. Alderton and H. L. Fevold. Preparation of the egg yolk lipoprotein, lipovitellin. Arch. Biochem. 8(3):415-419. Dec., 1945.
- +H. J. Dutton and B. G. Edwards. Changes in stored dried eggs. Spectrophotometric and fluorometric measurement of changes in lipides. Indus. and Engin. Chem. 37(11):1123-1126. Nov., 1945.
- +H. J. Dutton and B. G. Edwards. Determination of carotenoids and lipid amine-aldehyde products in dehydrated egg. Indus. and Engin. Chem., Analyt. Ed. 18(1):38-41. Jan., 1946.

- +B. G. Edwards and H. J. Dutton. Changes in stored dried eggs. Role of phospholipides and aldehydes in discoloration. Indus. and Engin. Chem. 37(11):1121-1122. Nov., 1945.
- +L. Kline and C. M. Johnson. Factors influencing estimation of free fatty acids in dried egg powders. Indus. and Engin. Chem., Analyt. Ed. 18(1):35-38. Jan., 1946.
- +A. A. Klose, G. I. Jones, and H. L. Fevold. Vitamin content of spray-dried whole egg. Indus. and Engin. Chem. 35(11):1203-1205. Nov., 1943.
- +B. Makower. Vapor pressure of water adsorbed on dehydrated eggs. Indus. and Engin. Chem. 37(10):1018-1022. Oct., 1945.
- +H. S. Olcott and H. J. Dutton. Changes in stored dried eggs. Source of fluorescence. Indus. and Engin. Chem. 37(11):1119-1121. Nov., 1945.
- +F. Stitt and E. K. Kennedy. Specific heats of dehydrated vegetables and egg powder. Food Res. 10(5):426-436. Sept., 1945.

BY-PRODUCTS AND OTHER TECHNICAL SUBJECTS

Mimeographed information:

- 14 Recovery of tartrates from grape wastes. Aug., 1943
- 28 Preparation of a liquid apple pectin concentrate. Sept., 1943.
- 70 A process for production of asparagus-juice concentrate. Feb., 1945.
- +106 Production, concentration, properties, and assay of the antibiotic, subtilin. Jan., 1946.

Journal articles:

- *G. Alderton, W. H. Ward, and H. L. Fevold. Isolation of lysozyme from egg white. Jour. Biol. Chem. 157(1):43-58. Jan., 1945.
- G. Alderton, J. C. Lewis, and H. L. Fevold. The relationship of lysozyme, biotin and avidin. Science 10(2615):151-152. Feb., 1945.
- A. A. Andersen. Recovery of agar from used media. Jour. Bact. 46(4):396-397. Oct., 1943.
- +A. A. Andersen. A simple automatic media dispenser. Indus. and Engin. Chem., Analyt. Ed. 17(7):463-464. July, 1945.
- G. F. Bailey and H. J. Dutton. Apparent increase in carotene of carrots during process of dehydration. Fruit Prod. Jour. and Amer. Food Mfr. 24(5):138-142. Jan., 1945.
- *E. Bickoff and K. T. Williams. Determination of carotene in vegetable oils without saponification. Indus. and Engin. Chem., Analyt. Ed. 15(4):266-268. Apr., 1943.
- E. Bickoff and K. T. Williams. Stability of carotene added to solid carriers. Indus. and Engin. Chem. 36(4):320-323. Apr., 1944.

- E. Bickoff, K. T. Williams, and M. Sparks. Stabilization of carotene with nordihydroguaiaretic acid and other antioxidants. *Oil and Soap* 22(5):128-131. May, 1945.
- *G. H. Brother, C. H. Binkley, & B. Brandon. Keratin--A modifier for phenolic plastics. *Modern Plastics* 22(7):157-160, 196, 198. March, 1945.
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- +J. F. Carson and W. D. MacLay. 1,4-Anhydro-D,L-xylitol. *Jour. Amer. Chem. Soc.* 67(10):1808-1810. Oct., 1945.
- +M. E. Davis, E. M. Chace, and C. G. Church. Protein and sulfur content of immature lima beans as affected by varietal and environmental factors and processing. *Food Res.* 7(1):26-37. 1942.
- K. P. Dimick. A quantitative method for the determination of tyrothricin. *Jour. Biol. Chem.* 149(2):387-393. Aug., 1943.
- H. J. Dutton and G. F. Bailey. Modification of Cenco spectrophotometer, permitting measurements of reflection and fluorescence spectra. *Indus. and Engin. Chem., Analyt. Ed.* 15(4):275-277. April, 1943.
- H. J. Dutton. Adsorption analysis of colorless compounds: Method and application to the resolution of stearic and oleic acids. *Jour. Phys. Chem.* 48(4):179-186. July, 1944.
- E. J. Eastmond. A useful tool for shaping spectrographic graphite electrodes. *Jour. Optical Soc. Amer.* 34(10):621-622. Oct., 1944.
- +E. J. Eastmond. Spectrographic determination of calcium in microbiological culture media. *Jour. Optical Soc. Amer.* 36(1):57-60. Jan., 1946.
- *D. W. Elam, H. M. Preusser, and R. L. Page. New plasticizers for vinyl resins and cellulose esters. *Modern Plastics* 20(9):95-97, 146-150. May, 1943.
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- H. Fraenkel-Conrat, M. Cooper, and H. S. Olcott. Action of aromatic isocyanates on proteins Jour. Amer. Chem. Soc. 67(2):314-319. Feb., 1945.
- +H. Fraenkel-Conrat and H. S. Olcott. Esterification of proteins with alcohols of low-molecular weight. Jour. Biol. Chem. 161(1):259-268. Nov., 1945.
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- E. F. Jansen, S. W. Waisbrot, and E. Rietz. Errors in the Zeisel methoxyl values for pectin due to retained alcohol. Indus. and Engin. Chem. 16(8):523-526. Aug., 1944.
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- C. R. Jeppesen, E. J. Eastmond, and H. G. Logan. Spectrographic determination of lead in pectinous materials. Jour. Optical Soc. Amer. 34(6):313-318. June, 1944.
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- *J. C. Lewis. A lactobacillus assay method for p-aminobenzoic acid. Jour. Biol. Chem. 146(2):441-450. Dec., 1942.
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